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## ESTIMATED SMALL GRAIN LOSSES FROM RUST IN 1999

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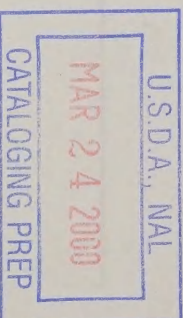
Acreage harvested and yield production records based on 1999 Crop Production Summary, Agricultural Statistics Board, USDA. Loss data are a summary of estimates made by personnel of the State Departments of Agriculture, University extension and research projects, Agricultural Research Service, USDA, and the Cereal Disease Laboratory.

Losses were calculated for each rust as follows:

$$\text{Loss (specific rust)} = \frac{(\text{Production}) \times (\text{Percent loss})}{(100\%) - (\text{Percent loss due to rusts})}$$

Losses were indicated as a trace when the disease was present but no fields were known to have suffered significant losses. When a few fields suffered measurable losses this was reflected as a percent of the state's production. Zeros indicate the disease was not reported in that state during the season. Blanks for stripe rust indicate that the disease was not reported nor does it occur annually in that state. Trace amounts were not included in the calculation of totals and averages.

**Please note:** The small grain rust loss reports are maintained on our webpage (<http://www.cdl.umn.edu>). To request a hardcopy E-mail David Long or write to the Cereal Disease Laboratory.







# WINTER WHEAT

State	1,000 acres harvested	Yield in bushels per acre	Production in 1,000 of bushels	Losses due to:					
				Stem Rust		Leaf Rust		Stripe Rust	
				Percent	1,000 bushels	Percent	1,000 bushels	Percent	1,000 bushels
Alabama	90	48.0	4,320	0.0	0.0	2.0	88.2	0.0	0.0
Arkansas	920	56.0	51,520	*T	T	3.0	1,593.4	0.0	0.0
California	370	78.0	28,860	0.0	0.0	1.0	313.7	7.0	2,172.2
Colorado	2,400	43.0	103,200	0.0	0.0	T	T	T	T
Florida	9	40.0	360	0.0	0.0	1.0	3.6	0.0	0.0
Georgia	225	43.0	9,675	0.0	0.0	1.0	97.7	0.0	0.0
Idaho	710	76.0	53,960	0.0	0.0	0.0	0.0	0.0	0.0
Illinois	1,010	60.0	60,600	0.0	0.0	2.0	1,236.7	0.0	0.0
Indiana	510	66.0	33,660	0.0	0.0	2.0	686.9	0.0	0.0
Iowa	31	43.0	1,333	0.0	0.0	1.0	13.5	0.0	0.0
Kansas	9,200	47.0	432,400	T	T	3.4	15,219.0	T	T
Kentucky	410	60.0	24,600	T	T	1.0	248.5	0.0	0.0
Louisiana	105	47.0	4,935	0.1	T	1.0	49.9	0.0	0.0
Michigan	600	69.0	41,400	0.0	0.0	0.0	0.0	0.0	0.0
Minnesota	35	30.0	1,050	T	0.0	1.0	10.6	0.0	0.0
Mississippi	165	50.0	8,250	0.0	0.0	1.0	83.3	0.0	0.0
Missouri	920	48.0	44,160	T	T	2.0	901.2	T	T
Montana	970	38.0	36,860	0.0	0.0	T	T	0.0	0.0
Nebraska	1,800	48.0	86,400	T	T	2.5	2,215.4	0.0	0.0
New Mexico	270	38.0	10,260	0.0	0.0	0.0	0.0	0.0	0.0
New York	125	65.0	8,125	0.0	0.0	0.0	0.0	0.0	0.0
North Carolina	580	49.0	28,420	0.0	0.0	2.0	580.0	0.0	0.0
North Dakota	57	37.0	2,109	0.0	0.0	T	T	0.0	0.0
Ohio	1,030	70.0	72,100	0.0	0.0	2.0	1,471.4	0.0	0.0
Oklahoma	4,300	35.0	150,500	0.0	0.0	4.0	6,270.8	0.0	0.0
Oregon	630	47.0	29,610	T	T	T	T	0.0	0.0
Pennsylvania	190	54.0	10,260	0.0	0.0	T	T	0.0	0.0
South Carolina	220	43.0	9,460	0.0	0.0	1.0	95.6	0.0	0.0
South Dakota	1,260	47.0	59,220	T	T	4.0	2,467.5	0.0	0.0
Tennessee	310	54.0	16,740	0.0	0.0	1.0	169.0	0.0	0.0
Texas	3,400	36.0	122,400	0.0	0.0	3.0	3,785.6	0.0	0.0
Virginia	240	57.0	13,680	0.0	0.0	1.0	138.2	0.0	0.0
Washington	1,670	58.0	96,860	T	T	T	T	0.1	978.4
West Virginia	7	57.0	399	0.0	0.0	T	T	0.0	0.0
Wisconsin	120	60.0	7,200	0.0	0.0	1.0	72.7	0.0	0.0
Wyoming	185	33.0	6,105	0.0	0.0	0.0	0.0	0.0	0.0
Total of Above	35,074	47.6	1,670,991	T	T	2.2	37,812.4	0.2	3150.6
U.S. % Loss									
U.S.Total	35,542	47.8	1,698,369						

\*T = Trace



# SPRING WHEAT

State	1,000 acres harvested	Yield in bushels per acre	Production in 1,000 of bushels	Losses due to:			
				Stem Rust	Leaf Rust	Stripe Rust	
				1,000 Percent bushels	1,000 Percent bushels	1,000 Percent bushels	
Colorado	50	80.0	4,000	0.0	0.0	*T	T
Idaho	640	79.0	50,560	0.0	0.0	0.0	
Minnesota	2,100	40.0	84,000	0.0	0.0	4.0	3,500.0
Montana	4,000	27.0	108,000	0.0	0.0	1.5	1,644.7
North Dakota	5,600	30.0	168,000	0.0	0.0	4.0	7,000.0
Oregon	153	33.0	5,049	0.0	0.0	0.0	0.0
South Dakota	1,710	35.0	59,850	T	T	3.0	1,851.0
Utah	25	56.0	1,400	0.0	0.0	0.0	0.0
Washington	620	44.0	27,280	0.0	0.0	0.0	0.0
Wisconsin	7	40.0	280	0.0	0.0	1.0	2.8
Wyoming	8	42.0	336	0.0	0.0	0.0	0.0
Total of Above	14,913	34.1	508,755		T	13,998.5	T
U.S. % Loss				T		2.7	T
U.S.Total	14,918	34.1	509,180				

# DURUM WHEAT

State	1,000 acres harvested	Yield in bushels per acre	Production in 1,000 of bushels	Losses due to:			
				Stem Rust	Leaf Rust	Stripe Rust	
				1,000 Percent bushels	1,000 Percent bushels	1,000 Percent bushels	
Arizona	75	97.0	7,275	0.0	0.0	0.0	
California	85	105.0	8,925	0.0	0.0	0.0	*T
Minnesota	5	32.0	160	0.0	0.0	0.0	
Montana	390	28.0	10,920	0.0	0.0	T	T
North Dakota	3,250	25.0	81,250	0.0	0.0	0.0	0.0
South Dakota	54	28.0	1,512	0.0	0.0	T	T
Total of Above	3,859	28.5	110,042		0.0	T	T
U.S. % Loss				0.0		T	T
U.S.Total	3,859	28.5	110,042				

\*T = Trace







# OAT

State	1,000 acres harvested	Yield in bushels per acre	Production in 1,000 of bushels	Losses due to			
				Stem Rust		Crown Rust	
				Percent	1,000 bushels	Percent	1,000 bushels
Alabama	20	44.0	880	*T	T	3.0	27.2
Arkansas	11	91.0	1,001	0.0	0.0	0.0	0.0
California	30	85.0	2,550	0.0	0.0	0.0	0.0
Colorado	20	65.0	1,300	0.0	0.0	0.0	0.0
Georgia	25	55.0	1,375	0.0	0.0	1.0	13.9
Idaho	25	68.0	1,700	0.0	0.0	0.0	0.0
Illinois	60	71.0	4,260	0.0	0.0	0.0	0.0
Indiana	25	65.0	1,625	0.0	0.0	T	T
Iowa	175	65.0	11,375	0.0	0.0	0.0	0.0
Kansas	70	47.0	3,290	0.0	0.0	0.0	-
Louisiana	**NA	NA	NA	0.0	0.0	0.5	0.0
Michigan	75	65.0	4,875	0.0	0.0	0.0	0.0
Minnesota	300	59.0	17,700	0.0	0.0	2.0	361.2
Missouri	22	46.0	1,012	0.0	0.0	T	T
Montana	70	49.0	3,430	0.0	0.0	0.0	0.0
Nebraska	75	62.0	4,650	0.0	0.0	T	T
New York	70	68.0	4,760	0.0	0.0	0.0	0.0
North Carolina	30	68.0	2,040	0.0	0.0	2.0	41.6
North Dakota	340	53.0	18,020	0.0	0.0	5.0	948.2
Ohio	100	70.0	7,000	0.0	0.0	0.0	0.0
Oklahoma	30	43.0	1,290	0.0	0.0	0.0	0.0
Oregon	20	100.0	2,000	0.0	0.0	0.0	0.0
Pennsylvania	145	55.0	7,975	0.0	0.0	0.0	0.0
South Carolina	35	52.0	1,820	0.0	0.0	1.0	18.4
South Dakota	200	64.0	12,800	T	T	3.0	395.9
Texas	110	44.0	4,840	1.0	50.4	3.0	149.7
Utah	9	75.0	675	0.0	0.0	0.0	0.0
Washington	15	75.0	1,125	0.0	0.0	0.0	0.0
West Virginia	2	48.0	96	0.0	0.0	0.0	0.0
Wisconsin	300	62.0	18,600	0.0	0.0	1.0	187.9
Wyoming	29	63.0	1,827	0.0	0.0	0.0	0.0
Total of Above	2,438	59.8	145,891		50.4		2,144.0
U.S. % Loss				0.03		1.4	
U.S.Total	2,465	60.0	147,906				

\*T = Trace

\*\*NA = Not Available, therefore not included in loss totals.



# BARLEY

Losses due to:

State	1,000 acres harvested	Yield in bushels per acre	Production in 1000 of bushels	Stem Rust		Leaf Rust		Stripe Rust	
				Percent	1,000 bushels	Percent	1,000 bushels	Percent	1,000 bushels
Arizona	62	114.0	7,068	0.0	0.0	*T	T	0.0	0.0
California	125	64.0	8,000	0.0	0.0	0.0	0.0	16.0	571.4
Colorado	86	105.0	9,030	0.0	0.0	T	T	T	T
Idaho	690	78.0	53,820	0.0	0.0	0.0	0.0	0.0	0.0
Kansas	13	45.0	585	0.0	0.0	0.0	0.0		
Kentucky	8	80.0	640	0.0	0.0	T	T		
Michigan	21	66.0	1,386	0.0	0.0	0.0	0.0	0.0	0.0
Minnesota	180	47.0	8,460	T	T	1.0	85.4	0.0	T
Montana	1,150	50.0	57,500	0.0	0.0	T	T		
Nebraska	3	48.0	144	0.0	0.0	0.0	0.0		
North Carolina	19	80.0	1,520	0.0	0.0	6.0	97.0		
North Dakota	1,260	49.0	61,740	0.5	310.2	T	T		
Oklahoma	3	39.0	117	0.0	0.0	0.0	0.0	T	T
Oregon	135	51.0	6,885	0.0	0.0	0.0	0.0		
Pennsylvania	70	71.0	4,970	0.0	0.0	0.0	0.0		
South Carolina	2	60.0	120	0.0	0.0	1.0	1.2		
South Dakota	74	48.0	3,552	2.0	72.5	T	T	0.0	0.0
Texas	10	35.0	350	0.0	0.0	0.0	0.0		
Utah	83	82.0	6,806	0.0	0.0	0.0	0.0		
Virginia	60	82.0	4,920	0.0	0.0	0.0	0.0	T	T
Washington	490	59.0	28,910	0.0	0.0	0.0	0.0		
Wisconsin	65	52.0	3,380	0.0	0.0	T	T		
Wyoming	85	86.0	7,310	0.0	0.0	0.0	0.0		
Total of Above	4,694	59.1	277,213		382.7		183.6		571.4
U.S. % Loss				0.14		0.06		0.20	
U.S. Total	4,778	59.5	285,073						

\*T = Trace





# RYE

State	1,000 acres harvested	Yield bushels per acre	Production in 1,000 of bushels	Losses due to:			
				Stem Rust		Leaf Rust	
				Percent	1,000 bushels	Percent	1,000 bushels
Georgia	50	21.0	1,050	0.0	0.0	*T	T
Illinois	7	29.0	203	0.0	0.0	0.0	0.0
Indiana	2	35.0	70	0.0	0.0	0.0	0.0
Kansas	10	30.0	300	0.0	0.0	0.0	0.0
Michigan	21	36.0	756	0.0	0.0	0.0	0.0
Minnesota	25	31.0	775	0.0	0.0	0.0	0.0
Nebraska	15	24.0	360	0.0	0.0	0.0	0.0
New York	15	38.0	570	0.0	0.0	0.0	0.0
North Carolina	28	23.0	644	T	T	1.0	6.5
North Dakota	37	41.0	1,517	0.0	0.0	0.0	0.0
Ohio	4	36.0	144	0.0	0.0	0.0	0.0
Oklahoma	55	19.0	1,045	0.0	0.0	0.0	0.0
Pennsylvania	15	40.0	600	0.0	0.0	0.0	0.0
South Carolina	20	25.0	500	0.0	0.0	0.0	0.0
South Dakota	23	44.0	1,012	0.0	0.0	0.0	0.0
Texas	25	18.0	450	0.0	0.0	0.0	0.0
Virginia	8	34.0	272	0.0	0.0	0.0	0.0
Wisconsin	12	32.0	384	0.0	0.0	0.0	0.0
Total of Above	372	28.6	10,652	T	T	0.06	6.5
U.S. % Loss							
U.S.Total	383	28.7	10,993				

\*T = Trace



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